

June 1999

Chair's Report for June, 1999

It has been my privilege to be your Chairman for the past year. The Section had a very productive year, made possible by the hard work of the officers and members of the board of directors. These people worked on many projects this year including: The Great Paper Airplane Contest, The Great Moonbuggy Race, the Hug the Hardware Tour Series and The Fortieth Anniversary Dinner to name a few. Please express your appreciation for their hard work the next time you see them.

Todd Honeycutt, the 1999-2000 Chairman, is an outstanding individual. He has served on the board of directors for several years, and has been the driving force behind the young member's "Hug the Hardware" tour series. Combined with the enthusiastic members of the new board they will continue to serve you, the members, and the community.

Alfred Wright
1998-1999 Chair Al-Miss Section AIAA

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About the Alabama-Mississippi Section (<http://www.msfc.nasa.gov/AIAA/>)

We are one of the largest Chapters in AIAA with about 950 members and we serve the states of Alabama and Mississippi. The board of directors meets on the first Thursday of the month at the UAH College of Engineering Building in the Deans Conference room. Everyone is welcome! The general membership meets monthly, September to June for lunch or dinner, with speakers who cover topics related to Aeronautics and Astronautics (space history, science, engineering, aviation, propulsion, human space flight, etc.). Times and location are announced in the newsletter and separate fliers.

Sectional News and Events



47TH ANNUAL AWARDS DINNER AND MEETING

On May 25, 1999 the Alabama-Mississippi Section held its 47th Annual Officers Installation and Awards Banquet at the Holiday Inn Research Park in Huntsville Alabama. This annual event provides the Section with an opportunity to look back on the accomplishments of the past year, welcome the new and energetic leadership that will guide us through the coming year, and take the time to recognize the significant accomplishments of our peers. Our guest speaker for the evening was Steve Crowe, Manager of Delta IV Operations at Boeings Decatur facility. Steve discussed the Delta IV launch vehicle, production processes and integration flow. Thanks to Steve for an interesting overview of the Boeing Decatur facility, congratulations to the newly elected Board of Directors for the Alabama-Mississippi Section, thanks to the members at large who made the evening a success, and a special congratulations to this years award winners.

1998-1999 HERMANN OBERTH AWARD - Mr. Otha H. Vaughan



Oberth Award winner Mr. Otha H. Vaughan proudly displays the Oberth bust.

The Hermann Oberth Award, sponsored by the Lockheed Martin Corporation, is for outstanding individual scientific achievement in the field of astronautics or for the promotion and advancement of the aeronautical sciences. It is presented annually to a member of the Alabama-Mississippi Section. A bust of Hermann Oberth and a framed certificate are presented to the recipient.

This years winner, Mr. Otha Vaughan, has been conducting research in atmospheric electricity at Marshall Space Flight Center since 1981. He flew his first lightning observational hardware, called Night-Time Optical Survey of Lightning (NOSL), during shuttle flights STS-2, -4, and -6. This was a crew-operated observational program that used 16mm film camera and an optical detector to locate and record optical lightning signatures. Data from these flights and instrumented U-2 aircraft research flights in the early 1980's and the late 1980's were used to provide design criteria for concepts that might be used in future lightning experiments conducted from space. Results from these studies led to the Optical Transient Detector (OTD) satellite which was placed in orbit in 1995.

1998-1999 HOLGER TOFTOY AWARD - Thomas M. Hancock III

The Holger Toftoy Award, historically sponsored by the Lockheed Martin Missiles and Space Company, is presented to a member of the Alabama-Mississippi Section to recognize outstanding technical management in the fields of aeronautics and astronautics. An engraved plaque is presented to the recipient.

Tom Hancock is Lead Engineer with AverStar for NASA's Independent Verification and Validation efforts. Mr. Hancock is responsible for independent verification of flight software developed at NASA/MSFC for the International Space Station program. Tom has over 18 years of experience in software development and systems engineering. His past experience includes: Project Engineer for USAF Space Shuttle Launch and Landing Operations, Lead Engineer for Database Development at NASA's Deep Space Network, High Energy Laser Weapons Effects Project Manager for the B-1B aircraft, Flight Software

Development for the Galileo Jupiter Mission, Director of Operations-Development Integration Laboratory USAF Rail Garrison Program, Lead Artificial Intelligence Design Engineer for the Airborne Attack Decision Aid System, and contributions to several classified programs. Mr. Hancock has co-authored two books on Artificial Intelligence and 15 papers on space science, software development and design. He was payload manager for 3 experiments flown on STS-40, one on STS-87 and a reflight of an experiment scheduled to fly on STS-101 in December 1999. Tom developed the basic design of the Magellan Venus Orbiter, the Space Shuttle's Mobile VAB that was to be used at Vandenberg AFB, and a modular approach to modeling human intelligence and autonomous spacecraft control. Tom is a Senior member of AIAA and was past Chair, Vice-Chair and Treasure of the Alabama/Mississippi Section.

1999 AEROSPACE ENGINEER OF THE YEAR AWARD - J. Jeffrey Irons

J. Jeffrey Irons is the Director of the Huntsville Field Marketing office and SSSO Business Development. In this position, he oversees Huntsville marketing efforts for Boeing's local programs, including the International Space Station and new business opportunities related to payloads, utilization and operations for the International Space Station and other space research platforms; Space Transportation programs; Missile Defense and other DoD programs; and Advanced Programs. An experienced aerospace engineer with an extensive marketing background, Irons' previous experience was with the Northrop Grumman Corporation as Director of Civil Space and Advanced Programs in charge of business development activities in civil space, energy, and advance technology. From 1983 through 1990, Irons held a variety of marketing positions with the General Dynamics Corporation covering space, strategic defense, NASA, and Army emerging technologies. In addition, Irons served as a staff member on the Space and Transportation, Aviation, and Materials subcommittees for the 97th and 98th Congresses.

Irons has an M.S. in Aerospace Engineering from the Virginia Polytechnic Institute and State University and an M.B.A. from Virginia Tech. He is an active member of a number of national professional aerospace organizations. Irons has published over thirty articles and reports.



Tom Hancock (left) AL-MS Section Awards Director and 1998-1999 Toftoy Award winner presents the Aerospace Engineer of the Year award to J. Jeffrey Irons.

1999 YOUNG AEROSPACE ENGINEER OF THE YEAR AWARD - Dr. Ivana Hrbud

Dr. Ivana Hrbud has worked with the Space Power Institute (SPI), Auburn University, AL as Post Doctoral Fellow since 1997. While there, she was responsible for design, experimental testing, and analysis of performance characteristics of miniature electric propulsion units and power systems for smallsat applications at SPI. In January 1999, Dr. Hrbud was assigned to the Marshall Space Flight Center as an Electric Space Propulsion Specialist through the Intergovernmental Personnel Act (IPA) Fellowship program. While at MSFC she serves as the MSFC lead for planning, design, build-up and conduct of all experiments involving advanced electric propulsion technologies at MSFC. She assists the division chief in defining and initiating research projects in electric propulsion and other advanced propulsion technologies. Because she is the electric propulsion expert at MSFC, Dr. Hrbud also interacts with the MSFC Advanced Space Transportation In-Space Propulsion project manager and Advanced Research project manager when requested to offer technical information and/or direction on research activities. She has published 8 papers and is expected to present another this summer at the 1999 Joint Propulsion Conference in Los Angeles. She is a member of the American Institute of Aeronautics and Astronautics (currently serves as the Region II AIAA Deputy Director for Public Policy), the Electric Rocket Propulsion Society, the American Society of Mechanical Engineers, Sigma Gamma Tau (National Aerospace Honor Society), Phi Beta Delta (International Scholar Honor Society), and The Planetary Society.

1998-1999 MARTIN SCHILLING AWARD - Alfred M. Wright

The Martin Schilling Award, historically sponsored by Teledyne Brown Engineering, is presented to a member of the Alabama-Mississippi Section in recognition of outstanding service to the Section, such as major contributions to its growth, technical program, or administrative functions. The award is named for the Section's founding president, Dr. Martin Schilling.

This year's recipient, Mr. Alfred Wright, received his Bachelor of Science degree in Aerospace Engineering from Iowa State University in 1985. He has been employed as an aerospace engineer with the U.S. Army Aviation and Missile Command in the Guidance Analysis group of the Missile Guidance Directorate for the past 12 years. He has worked on the design and development of missile guidance laws, guidance simulations, guidance Hardware-in-the-Loop and test flights for several current and experimental/developmental missile systems including HELLFIRE, CAMMS, MPIM, MSAM, and LCPK. Mr. Wright is a senior member of AIAA and is currently serving as the Chairman of the Alabama-Mississippi Section. Previously, Mr. Wright served as Treasurer, Secretary and Vice-Chair for the Section.

GET LAST-MINUTE NOTICES, MEETING REMINDERS AND THE TELEMETRY NEWSLETTER VIA EMAIL!

To be added to the Section's email address list, send us a note along with your email address to: "Honeycutt@Photon.com". The Telemetry newsletter can be delivered to you in one of three formats: 1) plain text format, 2) full MS Word 6.0 format with graphics (if the file doesn't become too big), and 3) Internet website notice - you'll just get a notice that the Telemetry newsletter is available on the web plus a link to the web page. You can help the Section reduce the cost of postage and making the copies if you elect to stop delivery of the paper copy. We can restart the paper copy at any time. Please include your zip code with this request, since the address labels are sorted this way. The memberships' email addresses are treated confidentially - we don't distribute these to anyone. You won't get any junk email because of us!!

Keep us updated if your email address changes. Also let us know if you have trouble with the format of any of the emails - especially the attached files.

LAST MINUTE NOTICES VIA EMAIL PROVE THEIR WORTH

The email notification network got to showcase its capabilities on two occasions this spring. One day in March we got word that Burt Rutan would be in town the next day visiting the EAA (Experimental Aircraft Association) at Moontown airport. After determining that everybody was welcome, we sent out a notice of this gathering. Clearly, providing such notice via standard mail would not have been possible. The other event which showed off the benefits of the email system was the tour of the Super Guppy aircraft. We compiled a list of interested

participants, and were able to notify the interested parties of the tour which was arranged only 18 hours in advance!

HOUSE AUTHORIZES NASA PROGRAMS OVER PRESIDENT'S REQUEST (H.R. 1654)

Washington, D.C. - On May 19, the House authorized NASA programs for the next three years by a 259-168 vote. Introduced by Space and Aeronautics Subcommittee Chairman Dana Rohrabacher (R-CA), H.R. 1654 includes \$41.2 billion for NASA programs -- a level higher than the President's request -- for fiscal years (FY) 2000, 2001, and 2002.



Both the International Space Station and Space Shuttle operations are fully authorized at the level requested by NASA. H.R. 1654 also provides additional funding for Space Shuttle upgrades, life and microgravity research, space science, advanced space transportation technology, and education.

Supporters of the Triana satellite did not offer an amendment to restore funding for the satellite; thus, the House-approved legislation provides only \$2.5 million for FY2000 to terminate the program. During the Science Committee's mark-up on May 13, the Committee had voted to transfer money from the Triana satellite to life and microgravity research. (F. James Sensenbrenner, Chairman, Committee on Science, House of Representatives, May 19, 1999)

A Note From The WebMaster

We have experienced some delays in updating the Internet site, and the latest events have not yet been posted. We expect to have the site updated in the near future, so please check back with us at:

<http://www.msfc.nasa.gov/AIAA>



and the front door had already been closed, everybody got to enter thru the belly door and climb up to the cargo and flight decks. Many thanks to Frank for hosting this fascinating tour!

MOONTOWN AIRPORT TOUR

Over the past year, we have tried to schedule a visit with Jim Boschma (the 1996 Oberth Award Winner) to talk about activities with lighter-than-air vehicles and to get a tour of his Russian IL-2 bi-plane and Moontown airport. Due to hectic schedules, we have been unable to pin down a date for this event. Therefore we will collect a list of names of everybody interested in attending, and we will contact them via email or telephone when the event has been scheduled. The current plan is to conduct the tour in July. If you have any interest in attending, please put your name in the "notification hat" by sending an email to "honeycutt@photon.com" or calling Todd Honeycutt at 256-536-2428. We will notify you as soon as the date has been set.

The Young Members' Report - Past, Present and Future

TOUR OF THE SUPER GUPPY AIRCRAFT

On April 1st, approximately 28 people gathered at Redstone Army Airfield to tour the Super Guppy cargo aircraft. The pilot, Frank Marlow, was the perfect host giving the crowd a short history of the Guppy's development, design, handling qualities and special assignments. This was followed by an excellent tour of the aircraft itself. Since the cargo had already been removed

Public Policy



WHAT'S UP WITH PUBLIC POLICY?

Our last Public Policy report was on March 21. Since then, Public Policy activities for the Alabama-Mississippi section focused on newsletter inputs, publicity for Section activities, and helping to plan and coordinate the Great Moon Buggy race on April 17.

PUBLICITY. The AIAA section was active in publicizing several events since our last newsletter update on March 21. These events included the April 5-8 AIAA/NASA Advanced Space Propulsion Workshop; the April 15-16 AIAA Student Conference in Tuscaloosa, AL; and the April 17 Great Moon Buggy Race.

GREAT MOON BUGGY RACE (Sat. April 17) - sponsored by NASA, the U.S. Space & Rocket Center, AIAA, Sci-Quest, and the Alabama Aerospace Teachers' Association. AIAA participated in event planning, helped to update the event rules, coordinated with other sponsors, sent out a "Call for Volunteers" to our membership, supplied a member to act as the Master of Ceremonies, participated in judging, and provided an AIAA Moonbuggy Design Award for the event.

NEWSLETTER. We have submitted legislative updates, an aerospace/defense industry sector rating report, and general news-of-interest to the local, national, and international sections of our newsletter. If you would like to share some news, please contact Olen Britnell at olenb@aol.com or Dave Sisk at Dave.Sisk@lmco.com.

I have enjoyed serving as your Public Policy Officer for the last 21 months! Good luck to Olen Britnell, the newly elected Public Policy Officer for AIAA, as he begins his two-year term of duty. Olen can be reached at olenb@aol.com. And many thanks to everyone for all the fun, support, and camaraderie!

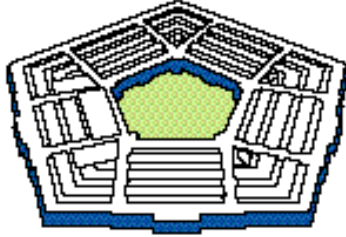
Paul L. Luz
Strongheart@worldnet.att.net
256-895-9592

National News and Events



DEFENSE AUTHORIZATION BILL (H.R. 1401)

On April 14, the FY2000-2001 Defense Authorization Bill (H.R. 1401) was referred to the House Committee on Armed Services. On May 13, the Subcommittee on Military Readiness approved it for full committee action. On May 19, a Committee Consideration and Mark-up Session was held.



COMMERCIAL SPACE COMPETITIVENESS ACT OF 1999 (H.R. 1526)

On April 22, bill H.R. 1526 was introduced to the House by Rep. Dave Weldon to promote the international competitiveness of the United States commercial space industry, to ensure access to space for the Federal Government and the private sector, and to minimize the opportunities for the transfer to other nations of critical satellite technologies. The bill was referred to the House Committee on Science the same day. On May 5, the bill was referred to the Subcommittee on Space and Aeronautics.

OPEN-MARKET REORGANIZATION FOR THE BETTERMENT OF INTERNATIONAL TELECOMMUNICATIONS ACT (S.376)

On February 4, bill S.376 was introduced to the Senate by Senator Conrad Burns to amend the Communications Satellite Act of 1962 to promote competition and privatization in satellite communications, and for other purposes. The bill was referred to the Commerce Committee on the same day. On March 25, the Subcommittee on Communications held some hearings about it. On May 5, the Committee on Commerce ordered the bill to be reported with an amendment in the nature of a substitute favorably.

AEROSPACE/DEFENSE INDUSTRY SECTOR RATING, MAY 12

On May 12, a forecast on the relative performance of stocks within the Aerospace/Defense industry upgraded the sector's rating to a score of 3/2.

AEROSPACE. Aerospace has rebounded in recent months due to signs of an economic recovery in Asia. A strong domestic economy also bodes well, as air travel remains brisk. Aging domestic fleet and pent-up overseas demand should help drive solid earnings growth. Boeing also showed signs that it is getting control of its production problems. The aerospace group seems to be at the threshold of at least a modest up cycle.

DEFENSE. Previous sector analyses noted that weapon supplies were dangerously low given stated military objectives and that much of our military equipment was outdated. Now, our defense stockpiles have depleted even further due to US involvement in the Balkans and the steady air assault on Kosovo. Defense spending is therefore projected to increase. This is good news for the embattled defense industry which has lived through sharp budgetary cuts over the past decade. Having become leaner and meaner to survive a tough industry environment, survivors are now well positioned to leverage budgetary increases into material earnings growth.

Most of the market performance should be seen in the defense sector where increased defense spending and continued consolidation result in modest outperformance. Note that United Technologies recently acquired Sundstrand and that Litton has made a play for shipbuilders Avondale and Newport News (NNS) for nearly \$1.8 billion. (Source: Aerospace/Def Industry Sector Rating, Charter Media Inc., May 12, 1999)

ROHRBACHER REBUKES STATE DEPT – PLEDGES TO WORK WITH AEROSPACE INDUSTRY

Washington, D.C. – On March 23, Representative Dana Rohrabacher (R-CA), Chairman of the House Science Committee's Subcommittee on Space and Aeronautics, pledged to work with the aerospace industry to help overcome State Department slowdowns in the approval of satellite exports to friendly countries. The jurisdiction of these exports has recently moved from the Commerce Department back to the State Department after Congress voiced its alarm in 1998 over unauthorized missile technology transfers. (FedCast, March 25, 1999)

International News and Events



INDIA SET TO ENTER COMMERCIAL LAUNCH MARKET THE WEEK OF MAY 24

Madras, India - The countdown began on May 24 for the first commercial flight of India's Polar Satellite Launch Vehicle (PSLV). "The countdown began at 6:52 a.m. (0122 GMT) this morning for the launch scheduled at 11:52 a.m. (0622 GMT) on May 26," PSLV project director S. Ramakrishnan told Reuters from the Indian Space Research Organization (ISRO) spaceport at Sriharikota on India's southeastern seaboard.

The four-stage solid and liquid fuel rocket is set to put into orbit a South Korean mini-satellite, a German research satellite and an Indian oceanographic remote sensing satellite. (Reuters, May 24, 1999)

YELTSIN GIVES GO-AHEAD TO PROLONG MIR'S LIFE

MOSCOW (CNN) – On May 21, the Russian Kremlin issued a statement saying that President Yeltsin had approved the government's plans to keep the 13-year-old Mir space station in orbit longer than planned if private money was found. The Russian government has said it would only pay for Mir's operation through the end of August. It would then abandon the station unless private investors come up with new money. Russia is sticking with Mir even though the United States has pressed Moscow to retire the orbiting laboratory to focus its resources on the new International Space Station. (CNN, May 21, 1999)

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Board Members

Alfred Wright	Chairman	(256) 876-8037	Wright-AI@Redstone.Army.mil
Tony Springer	Vice-Chairman	(256) 544-1571	Anthony.Springer@MSFC.NASA.gov
David Sisk	Secretary/Newsletter	(256) 922-3347	Dave.Sisk@LMCO.com
Eddie Lawhorn	Treasurer	(256) 880-2062	LawhornET@AOL.com
Melissa VanDyke	Technical	(256) 544-5720	Melissa.VanDyke@MSFC.NASA.gov
Dr. Chris Barret	Membership	(256) 544-7118	Chris.Barret@MSFC.NASA.gov
Dr. Wayne McCain	Education	(256) 233-6501	DrWayne@Athens.edu
			DrWayne@Companet.net
Dr. Allie Smith	Supernumerary	(601) 232-7407	enas@OleMiss.edu
Paul Luz	Public Policy	(256) 895-9592	Paul.Luz@MSFC.NASA.gov
			Strongheart@Worldnet.ATT.net
Tom Hancock	Awards	(256) 961-4002	Thomas.Hancock@HSV.Boeing.com
Tim Massey	Career Enhancement	(256) 876-1711	MasseyT@AOL.com
Kora Davis	UAH Student Rep	(256) 461-5241	Kora.L.Davis@Boeing.com
Todd Honeycutt	Young Members	(256) 536-2428	Honeycutt@Photon.com
Bob Noblitt	*	(256) 533-3714	Bobby.Noblitt@TRW.com

* Deputy Director of Region II for Membership + Chairman of the National Standing Committee for Membership.